APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,299	07/01/2004	Lisa Wu		4298

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EXAMINER
SANDERS, AARON J

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _01 July 2004_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-18_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-18_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _01 July 2004_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some *   c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

The Declaration is improperly signed. Electronic signatures are permissible, but must conform to the guidelines set forth by 37 CFR 1.4(c)(2).

Claim Objections

Claim 3 recites the limitation "said structure of data". While the examiner interprets this to refer to the "structured data" disclosed in claim 1, wording of claim limitations should be consistent across all of the claims. Appropriate correction is required.

Claim 4 recites the limitation "said data". While the examiner interprets this to refer to the "structured data" disclosed in claim 1, wording of claim limitations should be consistent across all of the claims. Appropriate correction is required.

Claim 8 recites the limitation "said structure of data". While the examiner interprets this to refer to the "structured data" disclosed in claim 1, wording of claim limitations should be consistent across all of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13, 14, 17, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claim 13, the specification does not disclose a means for or any description of "minimizing database memory usage".

As per claim 14, the specification does not disclose a means for or any description of "speeding up database operations".

As per claim 17, the specification does not disclose a means for "generating constructors for building database handlers given file paths in said file system" or "generating getters and setters for data fields".

As per claim 18, the specification does not disclose a means for or any description of "creating/updating/deleting identity of said data".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "instance of data" lacks antecedent basis. There is no claimed disclosure of how or from where the data instances are generated.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not disclose a "physical transformation" or a "useful, concrete, and tangible result". For example, in claim 1, "representing structured data in native XML files" is not a "physical transformation" or "tangible result".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chau et al., U.S. P.G. Pub. 2002/0123993.

As per claims 1-9, and 15-18, Chau et al. teach:

1. A method of building a native XML object database, comprising the step of representing structured data in native XML files (See e.g. [0057], "The XML System enables maintaining native XML formatted documents" where, see [0010], "XML documents comprise structured data").

2. The method according to claim 1, further comprising steps of: creating one or more directories in the file system; creating one or more XML files under said directories (See e.g. [0016], "A main table is created having a column for storing a document, wherein the document has one or more elements or attributes" where the "table" acts as a "directory" and the documents can be XML files).

3. The method according to claim 2, wherein the directory creating step further comprises the step of mapping said structure of data to file system paths (See e.g. [0019], "The XML data is mapped from the application DTD to the relational tables and columns using the document access definition based on the XPath data model" where, see [0042], "XPath gets its name from its use of a path notation as in URLs for navigating through the hierarchical structure of an XML document").

4. The method according to claim 2, wherein the XML file creating step further comprises the step of creating one XML file for each instance of said data (See e.g. [0083]-[0084], "With the XML System, an application can: Store entire XML documents as column data in an application table, either internally or externally as a local file or URL" where "externally as a local file" means it is an instance of the XML file).

5. The method according to claim 4, wherein the created XML file has a flat structure (See e.g. [0067], "Support of flat files: allows data to be stored in flat files, and imported/exported to/from database").

6. The method according to claim 1, further comprising the step of mapping object-oriented design to dynamically generated API (See e.g. [0746], "Get the element node under the root node from dad by DOM API" where "DAD" means "Document Access Definition" and "DOM" means "Document Object Model").

7. The method according to claim 6, wherein the dynamic API is generated in Java (See e.g. [0746], "Get the element node under the root node from dad by DOM API" where "DAD" means "Document Access Definition" and "DOM" means "Document Object Model" and where, see [0043], "A Document Object Model (DOM) is a standard set of function calls for manipulating XML files from a programming language. Additional detail may be found at the following web site: http://www.w3.org/TR/REC-DOM-Level-1/" which can include Java).

8. The method according to claim 6, wherein the dynamic API embeds links for said structure of data (See e.g. [0746], "Get the element node under the root node from dad by DOM API" where "DAD" means "Document Access Definition" and "DOM" means "Document Object Model" and where, see [0212], "define a Data Access Definition (DAD) which identifies the XML elements or attributes that need to be indexed and defines the mapping between XML elements or attributes to columns in one or more side tables. The DAD is an XML formatted document that is used to specify within an XML document which elements or attributes are to be searched. The DAD also provides a location path or XPath").

9. A system for building a native XML object database, comprising means for representing structured data in native XML files (See e.g. [0057], "The XML System enables maintaining native XML formatted documents" where, see [0010], "XML documents comprise structured data").

15. A computer program product for building a native XML object database, the computer program product embodied on one or more computer-readable media and comprising computer-readable program code means for representing structured data in native XML files (See e.g. [0057], "The XML System enables maintaining native XML formatted documents" where, see [0010], "XML documents comprise structured data").

16. The computer program product according to claim 15, further comprising computer-readable program code means for mapping object-oriented design to dynamically generated Java API (See e.g. [0746], "Get the element node under the root node from dad by DOM API" where "DAD" means "Document Access Definition" and "DOM" means "Document Object Model" and where, see [0043], "A Document Object Model (DOM) is a standard set of function calls for manipulating XML files from a programming language. Additional detail may be found at the following web site: http://www.w3.org/TR/REC-DOM-Level-1/" which can include Java).

17. The computer program product according to claim 16, further comprising computer-readable program code means for: generating constructors for building database handlers given file paths in said file system; generating getters and setters for data fields (See e.g. [0042], "XML Path or XPath addresses parts of an XML document. XPath gets its name from its use of a path notation as in URLs for navigating through the hierarchical structure of an XML document" where generating "constructors for building database handlers" and "getters and setters for data fields" is well known in the database management art).

18. The computer program product according to claim 15, further comprising computer-readable program code means for: creating/updating/deleting identity of said data in said XML files; creating/updating/deleting values or list of values of said data in said XML files; creating/updating/deleting references or list of references to other values under said structure (See e.g. [0008], "The SQL interface allows users to formulate relational operations on the tables either interactively, in batch files, or embedded in host languages, such as C and COBOL. SQL allows the user to manipulate the data" where, see [0060], "The XML System enables storing entire XML documents into a database and using SQL to do a fast search on desired XML elements or attributes with rich data types").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al. as applied to claims 1-9, and 15-18 above, and further in view of Wikipedia.org's definitions of "encryption", "access control", and "database management system".

10. The system according to claim 9, further comprising means for encrypting selected data fields in said native XML files.

Chau et al. do not disclose encrypting data fields, however, Wikipedia provides the motivation for doing so. Chau et al. and Wikipedia are analogous art because they both discuss database management. At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine these features. The motivation for doing so is found in Wikipedia's definition of "Encryption": "encryption emerged from the sole preserve of secretive government agencies into the public domain, and is now employed in protecting widely-used systems, such as Internet e-commerce, mobile telephone networks and bank automatic teller machines".

11. The system according to claim 9, further comprising means for delivering data access control to each instance of data.

Chau et al. do not disclose delivering data access control to each instance of data, however, Wikipedia provides the motivation for doing so. Chau et al. and Wikipedia are analogous art because they both discuss database management. At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine these features. The motivation for doing so is found in Wikipedia's definition of "Access control": "Authorization (or establishment) defines a user's rights and permissions on a system. After a user (or process) is authenticated, authorization determines what that user can do on the system. Most modern operating systems define sets of permissions that are variations or extensions of three basic types of access".

12. The system according to claim 9, further comprising means for minimizing damages of data corruption to instances of data.

13. The system according to claim 9, further comprising means for minimizing database memory usage.

14. The system according to claim 9, further comprising means for speeding up database operations.

Chau et al. do not disclose "minimizing damages of data corruption to instances of data", "minimizing database memory usage", or "speeding up database operations". However, these are well known goals of database management systems, as indicated by Wikipedia's definition of "Database management system". At the time of the invention, it would have been obvious to one

of ordinary skill in the art to combing these features. As per "minimizing damages of data corruption to instances of data" Wikipedia states, "A transaction mechanism, that ideally would guarantee the ACID properties, in order to ensure data integrity, despite concurrent user accesses (concurrency control), and faults (fault tolerance)". As per "minimizing database memory usage" and "speeding up database operations" Wikipedia states, "Data structures (fields, records and files) are optimized to deal with big amounts of data recorded to a permanent data storage device, which are very slow compared to the primary storage (volatile main memory)".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron J. Sanders whose telephone number is 571-270-1016. The examiner can normally be reached on M-Th 7:30a-5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJS

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